ENGLISH STUDIES DEGREE

FINAL UNDERGRADUATE DISSERTATION

English vowels in third language acquisition: an analysis of multilingual teenagers' pronunciation

Mercedes Sorribes Juan

Supervisor: Maria Pilar Safont Jordà

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ABSTRACT

This paper aims to examine English language learners' vowel pronunciation by focusing on the contribution of their mother tongue to the acquisition of English phonics skills. In this study, phonetics lessons will also be given to students who have never received one before to see if it helps them to improve their pronunciation. In addition, it will be tested whether the gender of the students has an influence on the acquisition of correct pronunciation. To obtain the results, a study was carried out at Torreblanca's secondary school with the help of students in two first-year secondary school classes. All participants (n=32), grouped according to their mother tongue, were asked to pronounce a list of words before and after receiving phonics lessons. The results indicate that their pronunciation skills improved after taking lessons and it was also shown that the first language contributes to the acquisition of better foreign language pronunciation. The results also indicate that male participants performed better at reproducing the sounds of English words.

Keywords: Phonology, phonetics, third language acquisition, mother tongue and vocalic system.

1. INTRODUCTION

The teaching of phonetics has been one of the least addressed aspects of the various linguistic disciplines involved in the teaching-learning process of English as a foreign language. Phonetics are ‘the study of the sounds made by the human voice in speech’ (Definition from the Oxford Dictionary, n.d.). Despite its importance, it has had an irrelevant place in second language teaching, and has not even become an important part of the teaching-learning process, always being subordinated to other disciplines. In contrast to semantics and syntax, which are considered to be relevant parts, phonetics has been considered a secondary discipline. The reasons for this lack of interest are varied and are due to factors unrelated to phonetics itself: age of the student, background, motivation, interest, teachers' attitudes, and so on and so forth. Since language practice is conceived as the practice of phonological, morphosyntactic and lexical elements, the omission of one of them will lead to a deficient learning process and, therefore, to the students being understood with difficulty, as pronouncing correctly is necessary to understand and, especially, to

make oneself understood. In English classes, the students are tested on their speaking, but how can they be tested on their speaking if they have not been taught phonetics, which is the basis of correct pronunciation? (Gómez Sacristán, 1997). So, one of the goals of this study will be for the participants to learn about the phonetics of English in order to demonstrate that in a short period of time they will acquire correct pronunciation thanks to the phonetics classes that will be given to them and thus, demonstrate that the discipline of phonetics is just as important as other disciplines.

Also, one of the aspects that should be taken into account in English classes is the linguistic background of the students. It has been shown that the process of learning a foreign language is different depending on whether or not another language has been previously learned. Furthermore, the study of phonetics and phonology in third language (L3) acquisition is very limited, as the field of L3 acquisition research is still a recent discipline in linguistics (Wrembel, Gut, and Mehlhorn, 2010). However, to the best of our knowledge, few studies have examined the effect of the first language on foreign language learning in bilingual individuals. Therefore, the aim of this study is to test the impact of the L1 on the learning of the phonetics of vowels through a two-month study at the school IES El Prat of Torreblanca with students of first grade of secondary education school in the English class to find out if the L1 helps to acquire the correct pronunciation of English vowels. Moreover, the study focuses on whether the students end up with better pronunciation after doing phonics lessons and also whether the gender of the participants has an influence on the acquisition of correct pronunciation**.** Therefore, the research questions guiding this study are the following: Does explicit teaching of English vowel pronunciation improve students' pronunciation in the long and in the short term?; does the linguistic background of the participants affect their improvement in pronunciation?; and, does the gender of the participants influence their pronunciation?.

In order to do this, practical-applied study will be carried out. It will consist of the development of a work based on a simple analysis of a sample of data in the field of phonology. The aim of this modality will be to investigate, in an experimental way, an aspect with the style, methodology and register typical of scientific work in the field of human and social sciences. The article is therefore structured as follows: It includes a literature review that brings together previous work carried out in the scope of this study. This is followed by a methodology section which includes information about the participants in the study, the relevant research methods and an explanation

of how the data was collected. The data section then presents the results of the study that has been carried out. Finally, the final discussion and conclusion will provide an overall assessment of the findings of the data analysis.

2. THEORETICAL BACKGROUND

2.1. Communicative competence

Communicative competence emerged from Hymes' response to the statement of the generative grammarian, Noam Chomsky (1965). Chosky's view of language only distinguished between competence and performance and he claimed that "Linguistic theory is concerned primarily with an ideal speaker-listener, in a completely homogeneous speech community, who knows its language perfectly and is unaffected by such grammatically irrelevant conditions" (Chomsky, 1965: 3). Therefore, he had an idealised notion of linguistic competence which did not include sociolinguistic rules and this is why the sociolinguist Dell Hymes (1972), attacked his theory and introduced the concept of communicative competence which included "not only Chomsky's (1965) grammatical competence but also the rules of language use in social context and the sociolinguistic norms of appropriacy" (Usó-Juan, & Martínez-Flor, 2006).

Following the line of Hymes' idea of communicative competence, Saville-Troike examined the notion from the point of view of second or foreign language contexts (Kamiya, 2006). Communicative competence can be defined as "what a speaker needs to know to communicate appropriately within a particular language community" (Saville-Troike, 2003, as cited in Pietilä, 2014). Due to globalisation, English has become a very significant language all around the world. Thus, there is a need to learn this language in order to use it as a means of communication (Barrera, 2009). So, as English language has become a globalised language it has also become an important part of people's everyday life. Therefore, from a social point of view, the knowledge of linguistic competence is not enough and it is necessary to focus on the knowledge of communicative competence too (Pietilä, 2014).

Tarvin (2015) builds on Saville-Troike definition, stating that communicative competence is "the ability to use language, or to communicate, in a culturally-appropriate manner in order to make meaning and accomplish social tasks with efficacy and fluency through extended interactions". Thus, L2 speakers must be able

to use a foreign language in a social context. Saville-Troike and Travin state that speakers must have a communicative competence in order to be able to communicate effectively and appropriately in a language community. In order to do this, it is necessary to be aware of the role of communicative competence in applied linguistics and language teaching (Celce-Murcia, 2000). In the process of learning a new language, communication should be the goal and it is acquired when a learner puts into use and achieves proficiency in the four skills of the communicative competence. In 1980, Canale and Swain proposed three areas of communicative competence: grammatical, sociolinguistic, and strategic competence. However, in 1983, Canale added the discourse competence to their theoretical framework (Kamiya, 2006). It was later, in 1990, that Bachman introduced a theoretical framework in which he presented three components of communicative language and one of them was linguistic competence, which is concerned with the different components of actual language proficiency (Pietilä, 2014).

2.2. Phonetics as component of linguistic competence

Linguistic competence involves all components of the language system, including aspects of grammar, vocabulary, phonology and phonetics (Usó-Juan, & Martínez-Flor, 2006). Phonology deals with the study of suprasegmental phonemes, which include elements such as intonation, stress, rhythm, pitch, gestures and facial expression. It also studies the sound system of a language, that is, it examines the segmental phonemes of the language, which include consonants and vowels. A consonant is a sound articulated with an obstruction to the flow of air while a vowel is a sound articulated without obstruction. Vowels can be described according to the tongue height so they can be classified into high, mid and low or according to the tongue part raised or lowered so they can be classified into front, central and back depending on the position of the tongue in the mouth. Also, the shape of the lips being spread, rounded or neutral is important in order to pronounce vowels correctly. Finally, vowels can be differentiated by their length too as they can be short or long vowels. As this study is based only on vowel sounds and not on consonants, it is necessary to mention the number of vowels in the mother tongues to be analysed. In English there are 12 pure vowels which will be studied by the participants, 7 of them are short vowels and 5 of them are long vowels (Betti, 2002). The mother tongues of the participants in this study are Spanish Valencian, Romanian, Arabic and Chinese.

Spanish has 5 short vowels in its vowel system which are /a, e, i ,o ,u / (RAE, 2020); in Valencian exists 8 vowel sounds which are /i, u, e, o, ɛ, ɔ, a, ə/ (AVL, 2006). Modern Standard Arabic and Classical Arabic have 6 vowel sounds which are /i, u, a, i:, u:, a:/ (Mustafawi, 2018), three of them are short vowels and the rest are long vowels. Chinese also have 6 vowels but none of them are long vowels: /ɑ, ə, i, u, y, ɨ / (Norman, 1988). Finally, Romanian has 7 short vowels and they are /a, e, i, o, u, ə, ɨ/ (Renwick, 2012).

On the other hand, phonetics is a field of linguistic study that deals with the articulation, perception and anatomy of speech sounds. Therefore, "it is either concerned with the description of all existing sounds or it describes the sounds of a specific language" (Betti, 2002). According to Ogden (2017), the most basic and common form of language is speech since most of people's interactions with the world are through speech so in order to do this it is necessary to understand phonetics. Phonetics is divided into three types as it studies the articulation, perception and anatomy of speech sounds. Articulatory phonetics studies the articulation of speech. In this study, students will learn how to articulate the vowel sounds of the English sound system. They will also learn how different sounds can be perceived or discriminated, which is studied in auditory phonetics. Finally, the last type is acoustic phonetics which studies the physical qualities of sounds in laboratories as they capture the speech signal (Betti, 2002).

2.3. The acquisition of phonetics by English learners

Language production and comprehension are complex processes of interaction between phonetic, semantic, syntactic, pragmatic and discursive components. Thus, human communication is partly achieved by the production and comprehension of speech sounds and, in addition, thanks to phonetics, the geographical and social origin of the speakers can be identified. However, one of the most difficult aspects of learning English as a foreign language is pronunciation, as it is a language in which the sound and spelling of words do not correspond to each other (Cenoz & Lecumberri, 1999). These authors consider that prosodic errors, such as intonation, are more serious if they are done incorrectly than errors in the articulation of phonemes, as they can lead to confusion at the pragmatic level and the incorrect pronunciation of a sound does not affect communication because the listener can interpret the meaning of the message from the context. Bent, Bradlow and Smith

(2007) disagree with these claims, as they believe that it is difficult for native speakers of English to understand non-native speakers, as there are deviations from the speech norms of non-native speakers that are not the same as those of the native speaker. In addition, the results of their study show that correct vowel production is related to intelligibility. Setter and Jenkins (2005) agree since, according to them, when a communication feature hinders the understanding of a word, communication will break down before the pragmatics factor even enters the equation. Thus, pronunciation is one of the principal factors of a successful oral communication because if a sound is not articulated correctly it can cause confusion to the listener as the message to be conveyed may not be understood. Intelligible pronunciation is thus an essential element of communicative competence, yet it is not given enough importance in the classroom. After conducting her study in Spanish schools, Márquez-López (2013) states that the biggest problem encountered in students' learning process is to correctly identify and reproduce the phonological and phonetic system of English applied to writing and reading. However, her study revealed that the phonological aspect of English teaching in the classroom is not always emphasised. As she claims, " in general, in our country there is still no method that can make children leave school with a good base knowledge of English ".

Focusing on gender, Majeres (1999) conducted a study where he carried out three experiments focusing on sex differences in phonological processing. In one of the experiments, university students read lists of words and lists of pseudohomophones - these are chains of letters that form a non-existing word but whose phonological form is identical to an existing word - to determine whether there was a sex difference in the phonology of unfamiliar words. In a final experiment, students read lists of words with phonologically inconsistent spelling patterns to determine whether there was a sex difference in reaching the pronunciations of familiar words. Results indicated that females were more proficient than males in both conditions. Another study by Chipere (2014) supports the theory that females are more proficient in pronunciation. In this case, the study was based on possible gender differences in phonological awareness and reading ability among children in early primary school. The results showed that females were also more successful than males in phoneme segmentation, correct letter sound and reading whole words fluency.

2.4. Phonetics and multilingualism

In multilingual contexts it is normal for people to learn and use a third language as several languages are part of their daily lives. The acquisition of a third language (L3) is frequent among immigrant populations and speakers of minority languages (Cenoz, 2013). In Europe, English is the most important language of communication, and for many bilingual and multilingual Europeans, English is one of the languages in their linguistic repertoire. The most influential model of English pronunciation in Europe is the British standard accent called Received Pronunciation which "is the present-day version of the accent that has been used as the standard in phoneticians' description of the pronunciation of British English for centuries" (Roach, 2004). However, third language acquisition is a relatively new area of linguistics, but authors such as Cenoz (2013) and Wrembel, Gut, and Mehlhorn, (2010) define it as the language that is learned after the acquisition of the first and second language. Therefore, research on phonetics and phonology in L3 acquisition is rather limited in research. Studies on the acquisition of foreign language phonology focuses mainly on the influence of the mother tongue (L1) on the acquisition of a second (L2) or third language and tends to consider this influence as a restrictive factor based on negative transfer and interference. However, the positive effects of the L2 acquisition process and the help it can provide to L3 acquisition remain unexplored (Wrembel, Gut, and Mehlhorn, 2010). Each of these authors conducted a study based on whether L2 positively affects L3 acquisition. In her study, 'Cross-linguistic influence in L3 phonological acquisition', Ulrike Gut (2010) 'investigates possible sources and directions of cross-linguistic influence on vowel reduction and speech rhythm produced by four trilingual speakers with different L1s in their L2 and L3' Her research showed that the impact of the phonological features of the L3 is stronger than the cross-linguistic influence. Raquel Llama, Walcir Cardoso and Laura Collins (2010) in their article 'The influence of language distance and language status on the acquisition of L3 phonology' investigate if 'L2 status or typology would be the stronger predictor in the selection of a source language for phonological influence in L3 acquisition.'. Their results showed that L2 does influence L3 as it is a determining factor in its acquisition. Magdalena Wrembel (2010) investigates the influence of L1 and L2 on the phonological acquisition of L3 in her study 'L2-accented speech in L3 production'. The results show that trilingual speakers resort to speaking in the L3 with

the L2 accent at the beginning of the language acquisition stage. However, this tendency decreases over the course of their language learning progress. After conducting their studies, these authors conclude that the type and nature of cross-linguistic influence on multilingual speakers depends on the linguistic level of the speaker. There are other papers that discuss the theory of the role of L2 in L3 acquisition. Marx and Mehlhorn (2010), states that "Compared to monolinguals, multilingual learners possess a larger repertoire of phonetic-phonological parameters." Thus, it is easy for them to acquire the pronunciation of different languages. Finally, in her study, Missaglia (2010) analysed the English vowel acquisition by infant German-Italian bilinguals and she found out that the L2 linguistic experience was beneficial for the phonological acquisition process of the English L3.

The research questions we tried to answer are the following ones:

RQ1. Does explicit teaching of English vowel pronunciation improve students' pronunciation in the long and in the short term?

RQ2. Does the linguistic background of the participants affect their improvement in pronunciation?

RQ3. Does the gender of the participants influence their pronunciation?

3. METHODOLOGY

3.1. Participants

The participants involved in this study were 19 male and 13 female students aged between 12 and 14 years in the first year of ESO at the El Prat secondary school in Torreblanca, a town in the province of Castellón, Spain. A total of 32 students from class 1A (total: 14 students) and 1B (total: 18 students) took part in the research. They were from different linguistic backgrounds and, in order to study the effect of teaching English vowels to L3 learners from different linguistic backgrounds and to find out whether their L1 and L2 affects their acquisition of correct English vowel pronunciation, the participants were grouped according to their mother tongues.

The participants included 3 native speakers of Romanian, 2 of them with a very good level of English but limited proficiency in Spanish and Valencian; 9

Spanish native speakers, 12 Valencian native speakers, 7 Arabic native speakers and 1 Chinese native speakers for whom all of them English was their third language. All of them are Spanish-Valencian bilinguals and they have been exposed to these languages either from birth (n=21), since before early childhood (n=10) or since after the age of 12 (n=2) and use both languages in their daily life. Participants with the exception of both who learned the languages at the age of 12, were exposed to Spanish and Valencian during childhood, kindergarten and primary school while both languages were learned at school. However, after having listened to the students in class we can affirm that at least, in the educational and social environment they use more Valencian when communicating with each other. This is due to two reasons, firstly because most of the participants are native Valencian speakers as the school is located in a town in the Valencian Community, where most of the population speaks Valencian, and secondly, because the school follows a Valencian educational line so the language is present in all the classes. As for English, the participants came into contact with the language before school by learning very simple concepts such as colours and numbers, but their formal learning of English began in school at the age of seven. Before starting the experiment we asked the participants' English teacher what he believed their level of English was and he stated that most of the students had a low A2 level except for two Romanian students who reached nearly B1. Before starting the project, it was explained to the students what was going to be done, the aim to be achieved and they were asked to collaborate, and they all agreed to participate.

3.2. Data collection

This study was based on a simple analysis of the data sample within the framework of phonetics. For this purpose, the phonic lessons took place during the last 15 or 20 minutes of the participants' 55-minute English classes. In these lessons, students learned the pronunciation of the 12 English vowels: / iː, ɪ, e, æ,ɑː, ɔː, ʊ, uː, ʌ; ɒ; ə; ɜː /. In order to do this, the theory and practice of the book *English Pronunciation In Use* (Hancock, 2012) was used as a reference for the participants to learn how to pronounce the phonemes.

In the first session, the participants were asked if they knew that there are 12 vowels in English and 100% of the participants answered 'no'. This proved that they had not previously been taught phonetics and phonology during their academic years.

Therefore, the first thing they were taught and explained was the IPA table so that they could have a first contact with the phonemes. Afterwards, activities on rhyming words were done to introduce them to the phonemes and to make them realise that spelling is not always a good guide to pronunciation. The following are the two activities that the participants received in the first session:

Activity 1. Which of the following groups of words do you think rhymes with the words in group B?

A	B	C
shoe	toe	know
foot	boot	suit
great	seat	feet
work	fork	walk
beard	heard	bird

In this first activity, the above list of words was written on the board, as the students had to identify all together and at the same time which group of words rhymed with the list of words in group B. Before reading the words aloud, they all agreed that the groups of words in A rhymed with those in B, as they were orthographically the same. As they were wrong, it was explained to them that the words that rhymed with group B were those of group C and not those of group A, as rhyme has to do with the sound and not only with the spelling of the words.

Activity 2. Each participant was given a sentence with two rhyming words. They read the sentence aloud and then identified which were the two rhyming words in each sentence. This activity was an introduction to rhyming and the sounds of phonemes and helped them to hear speech sounds that they do not have in their mother tongues.. Examples of some sentences were: "You have to dress for success", "Relax and go with the flow", "He goes from zero to hero", " I'm a man with a plan", and so on.

In the following sessions the participants were taught each of the English pure vowels which are / iː, ɪ, e, æ,ɑː, ɔː, ʊ, uː, ʌ; ɒ; ə; ɜː /. As there are 12 vowels in English, they were divided into groups of 4 phonetic vowels to control the students' progress.

As part of this study, the evolution of the students' learning of the English vowel phonemes was analysed and data was collected prior to the phoneme teaching sessions. In order to do this, the testing sessions were divided into four, according to the groups of the 4 phonetic vowels. In these sessions, participants were provided with a sheet of paper with 16 words which they pronounced aloud. Meanwhile, each participant's pronunciation of words was noted individually while they were reading the list of words aloud.

Before starting the pronunciation lessons, data was collected on the participants' pronunciation of words that were chosen as being reasonably easy for them. The first vowel phonemes taught were /æ/ , /i:/, /e/ and /ɑ:/ and the words selected to collect the data were: mad, hat, tap, cat, feet, dream, eat, green, men, left, friend, met, half, far, heart and car. Secondly, the phonemes /ɪ/, /ʊ/, /u:/ and /ʌ/ were taught. This time, participants previously pronounced the following words in order to recollect data: will, sit, kid, king, look, pull, good, put, shut, much, luck, must, fool, boot, rude and shoes. Finally, /ɔ:/, /ɒ/, /ə/ and /ɜ:/ were learned but before participants were ask to pronounce the following words: dog, doll, got, lock, away, paper, colour, doctor, shirt, sir, bird, girl, short, four, walk and wall.

Each set of phonemes took about two weeks to teach and, after teaching all of them, a second round of data was collected by the author and it was seen whether the lessons really helped the participants to acquire knowledge of the correct pronunciation of some English words. In this second testing session, the participants pronounced again all the words previously tested in the first sessions. In total, they pronounced 48 English words which were mostly monosyllabic, but there were also a few bisyllabic words. Finally, the results were grouped in tables for later analysis.

4. RESULTS

In this section it will be provided the results obtained analyzing the data of the participants' pronunciation testing sessions. The results refer to the percentage of correct pronunciation of the vowel sounds of the speakers the first time they read the word list without prior pronunciation lessons, the percentage of correct pronunciation of the vowel sounds of the speakers the second time they read the word list after learning each segmental, the amount of sound that is correctly spoken depending on

the mother tongue of each participant, as well as the variability of correct vowel sound pronunciation depending on gender.

The results in *Table 1* answers the first research question of this study. It shows the number of words that the participants pronounced with the appropriate vowel in each word. All participants pronounced 4 words of each phoneme, so in total each subject pronounced 48 words. Hence, the 32 students pronounced a total of 1,536 words out of which 649 were pronounced correctly before starting phonics lessons. The results obtained show that the participants have managed to pronounce successfully more short vowels than long vowels. The group of short vowels includes a great success in words with the sound /ɪ/ (19.26%) followed with the vowel sound /ʊ/ (18.49%), the sound /e/ (13.87%) and finally the sound /ʌ/ (8.17%). These sounds are probably the most correctly pronounced as the same sounds exist in Romance languages. Therefore, as the participants' L1 or L2 is a Romance language, whether it is Spanish, Valencian or Romanian, these are sounds that they recognise and already know how to pronounce. On the other hand, they have had difficulty in recognising and pronouncing words with long vowels mostly because they tended to make the long vowels shorter. In this case, the most successful pronunciation are the words with the vowel sounds /u:/ (7.09%), /i:/ (6.93%) and /ɑ:/ (6.32%) as, again, these are vowels that the participants already recognise. On the other hand, the least well pronounced are the vowels /ɜ:/ (5.24%) and /ɔ:/ (2.00%) as they are not common in their mother language so they are less familiar with these sounds.

The results after the lessons are very different. This time, the participants pronounced a total of 1058 words correctly. The most significant change in the short vowels is with the vowel /æ/ and with the vowel /ə/ as the number of correct pronunciations is much higher compared to the previous results. This time, the vowels /ɪ/ (12.1%), /ʊ/ (11.43%), /e/ (8.70%) and /ʌ/ (8.70%), with which the participants were familiar, are still the ones with the most accurate result. However, the big change is seen with the vowel /æ/ with 107 right answers compared to the previous 36 correct answers. Regarding the long vowels, the change in pronunciation is remarkable. Results have improved in all vowels compared to the first time they were recorded. Here, the most significant change from previous results is seen with the vowel /i:/ as there has been an increase in the number of correct pronunciations.

Table 1. Correct Pronunciation: Quantitative Results

Vowel sound	Pre-lessons		Post-lessons	
	N	%	N	%
Short vowels				
/æ/	36	5.55	107	10.11
/e/	90	13.87	93	8.70
/ɪ/	125	19.26	128	12.1
/ʊ/	120	18.49	121	11.43
/ʌ/	53	8.17	92	8.70
/ɒ/	16	2.46	31	2.93
/ə/	30	4.62	73	6.90
Long vowels				
/iː/	45	6.93	108	10.20
/ɑː/	41	6.32	96	9.07
/uː/	46	7.09	96	9.07
/ɔː/	13	2.00	62	5.86
/ɜː/	34	5.24	51	4.82
Total	649	100.00	1058	100

Next, data for each participant's mother tongue group was collected in *Table 2* in order to answer the second research question regarding how the participants' mother tongue affects their pronunciation of English words. *Table 2* shows the pronunciation successes of the participants before receiving the theoretical lessons. However, in this study only the pre-lesson data is shown, because, in order to answer the second research question, it is only necessary to have pronunciation data before the lectures to see how the L1 and L2 really affects the pronunciation of the L3 words without the participants being influenced by the lectures and thus not being able to change their pronunciation. The information shows that the subjects who have Valencian as their mother tongue are the ones who have pronounced the most correct words, however, it must be taken into account that they are also the most numerous group. In total, they pronounced 247 words correctly, followed by Spanish and Arab students, with 144 words, who, although the Spanish group is larger than the Arabic group, both pronounced the same number of words correctly. Then, the Romanians have pronounced 92 words correctly, which is a high number of words considering that there are only 3 participants in the group. Finally, the Chinese participant pronounced 22 words with the correct vowel sound.

Table 2. Correct Pronunciation According the L1: Quantitative Results

Vowel sound	Spanish		Valencian		Romanian		Arabic		Chinese		**Total**	
	N	%	N	%	N	%	N	%	N	%	N	%
Short vowels												
/æ/	4	11.1	10	27.7	7	19.4	15	41.6	0	0	36	100
/e/	23	25.5	31	34.4	9	10	23	25.5	4	4.4	90	100
/ɪ/	35	28	48	38.4	12	9.6	26	20.8	4	3.2	125	100
/ʊ/	35	29.2	44	36.6	11	9.16	27	22.5	3	2.5	120	100
/ʌ/	10	18.9	22	41.5	8	15.1	10	18.8	3	5.6	53	100
/ɒ/	2	12.5	6	37.5	5	31.25	3	18.75	0	0	16	100
/ə/	2	6.6	16	53.3	4	13.3	6	20.0	2	6.6	30	100
Long vowels												
/iː/	11	24.4	14	31.1	7	15.5	11	24.4	2	4.4	45	100
/ɑː/	8	19.5	16	39.0	7	17.0	9	21.9	1	2.4	41	100
/uː/	9	19.5	16	34.7	9	19.5	9	19.5	3	6.5	46	100
/ɔː/	1	7.7	6	46.1	5	38.4	1	7.7	0	0	13	100
/ɜː/	4	11.7	18	52.9	8	23.5	4	11.7	0	0	34	100

The short vowels /e/, /ɪ/, /ʊ/ and /ʌ/ are the most correctly pronounced by all four groups. Valencians and Spaniards have the highest percentages of correct pronunciation, followed by Arabs, then Romanians and finally Chinese. As mentioned before, these sounds also exist in the mother tongues of the participants and that is why the percentages are higher than the vowel sounds /æ/, /ɒ/ and /ə/. Moreover, although Arabic and Chinese are not Romance languages, the participants in this study have Spanish and Valencian as their L2.

The highest percentage who pronounced most of the words with the corresponding phoneme /æ/ was 36% of the participants whose mother tongue was Arabic. In this language, the phoneme /æ/ is an allophone of the phoneme /a/ and to support this, the Arabic learners were asked to pronounce the Moroccan word 'kitāb'

('kitāb' in English) and pronounced it as /kiˈtæːb/. Having this sound in their speech system makes it easier for them to pronounce sentences with the phoneme /æ/. The next best pronouncers of the phoneme were the Valencians with 33%, taking into account that they are the most numerous. Depending on the Catalan dialect, there are words in which /æ/ is pronounced, as in the case of 'tesi' which, depending on the dialect, can be pronounced /ˈtæzi/ or /ˈtɛzi/. so it is possible that this is the reason why they pronounce it correctly. Out of the 3 Romanian participants, only two of them had 19% correct pronunciation. The Romanians from the region of Bucovina are the only ones who use this phoneme in Romania, however they were from the south of Romania, but both of them have a very good level of English, as they learned it before coming to Spain so they were already familiar with this sound. Finally, 11% of the Spanish speakers pronounced the words correctly and 0% of the Chinese participant. The vowel sound /æ/ does not exist in Spanish or Chinese, so this is considered to be the reason for the lower percentages.

Regarding the vowel /ɒ/, Valencians and Romanians have the highest percentage of correct answers with 37.5% and 31.25% respectively. Valencian and Romanian, unlike the other languages, do have in their vowel system the open “o”, that is the phoneme /ɔ/, which is similar to the phoneme /ɒ/. The Spanish and Arabic speakers have pronounced correctly only 5 words in total as they have no previous knowledge of this phoneme. Perhaps the few correct words are due to the contact they have with Valencian and therefore with the phoneme /ɔ/ as well. In the case of Chinese, it is important to remember that this language is monosyllabic, so the syllable is divided into an initial and final. The initial is always a consonant and the final is the rest of the syllable in which there must be an obligatory vowel. Thus, the phoneme /ɒ/ is pronounced in the endings "ao, iao, ang and uang" (Norman, 1988). In this case the Chinese participant scored 0% correct pronunciation as the words in the list did not contain any of these four endings.

To finish with the long vowels, the /ə/ is more often pronounced correctly by Valencians since they have this sound in their vowel repertoire. The second best pronouncers were the Arabs with 20% and the third best were the Romanians with 13.3%. These results are remarkable because Romanians have schwa in their vowel speech system but Classical Arabic and Modern Standard Arabic do not have it. Lastly, among the Spanish and Chinese participants, only 4 words were pronounced correctly in total.

In general, participants in all languages were not able to pronounce as many words correctly with long vowels as with short vowels. The long vowels /i:, ɑ:, .u:/ are the ones pronounced most often correctly, with 45, 41 and 46 words respectively. These three long vowels only exist in the Arabic vowel system, and although the Valencians have obtained more correct pronunciations, again, they are more numerous so the 29 total correct pronunciations of the Arabs have a significant relevance. Regarding the phoneme /ɔ:/, Valencians and Romanians have 46.1% and 38.4% of correct answers, since, as previously mentioned, the phoneme /ɔ/ exists in these two languages. The Spanish, Arabic and Chinese participants only pronounced 2 words in total with the correct phoneme. The segmental /ɜ:/ can be considered as a long /ə/ so Valencians are the most successful with 52.9% of accuracy. This time, Romanians, who also have the schwa in their vowel system, are the second most successful in pronouncing words correctly. Finally, the Arabs have pronounced the short phoneme (20%) better and than the long one (11.7%), which is interesting, since, again, they are the only ones who have long vowels in their vowel system. Moreover, Spanish participants, who do not have long vowels in their vowel system, obtained the same results as the Arabs (11.7%). Lastly, the Chinese students on this occasion scored 0%.

Regarding the third research question, *Table 3* shows the number and percentage of correct answers depending on the gender of the participants before and after the pronunciation lessons. In total there are 32 students which 19 are male and 13 female.

Table 3. Correct Pronunciation According to the Gender: Quantitative Results

		Correct pronunciation		Total	
		N	%	N	%
Pre-lessos	Female	277	42.69	649	100%
	Male	372	57.31		
Post-lessons	Female	502	47.44	1058	100%
	Male	556	52.55		

The results of the testing sessions before the pronunciation lessons show that male participants scored 372 words with the correct pronunciation. In contrast, female participants pronounced 277 words correctly. Looking at the percentages, the difference between gender pronunciation is 14.62%. However, after the lessons this percentage decreases even further with only 5.11% difference between the genders pronunciation.

5. DISCUSSION

In this section the findings that have emerged during the study the results obtained will be discussed. With the participants' first class it was proved that they have not had any previous knowledge in the field of phonetics and, even after many years of being in contact with the language in their academic life, they still pronounced the words according to their spelling. From what could be observed during English classes, they are based on traditional teaching which gives more importance to grammar and not to communicative competence. Teaching should not focus only on grammar as communication is the aim of learning a new language and the traditional method is not the most effective way to achieve this. Therefore, this paper wants to provide evidence that vowel teaching should be more present in the classroom and will therefore discuss whether this experiment has really helped the participants to acquire a better knowledge of English vowels. If they learn to pronounce them correctly it will give them the confidence to speak in public without being embarrassed, as during the months we have been with these students many of them did not dare to speak in front of their classmates for fear of being mistaken.

The first question that arose from this study was whether explicit teaching of English vowel pronunciation improved students' pronunciation in the long and in the short term. The analysis of English vowels produced by Spanish, Valencian, Romanian, Arabic and Chinese speakers revealed that two months of vowel phonetics classes conducted in Torreblanca’s high school was effective in improving pronunciation of English vowels. Results show that after the lessons were conducted, participants’ English vowel pronunciation was acoustically closer to the target English vowel norms. These results suggest that phonetics classes help students to adjust their pronunciation to achieve the norms of English speech system. As shown, participants have gone from pronouncing 649 words correctly to 1058. Considering that the study

only lasted two months and only focused on vowels, it has been proved that pronunciation lessons are effective. Therefore, we believe that phonology should not be omitted from English classes as we know from this research that they have a positive impact on students' pronunciation. So, one month later after learning about vowels, the participants were no longer afraid to read aloud during English classes because they received the tools they needed to detect certain vowel sounds in order to be able to read a text correctly.

The second main question addressed in the study was whether the linguistic background of the participants affects their improvement in their L3 pronunciation. The data analysed clearly showed that the mother tongue of the participants affects the pronunciation of English words. In the case of the Valencians, they have been the ones who have pronounced more correctly words because they have been the largest group of participants. Moreover, in their vowel system there is the schwa, one of the most prevalent vowels in English phonetics, and also the sound /ɔ/ which resembles the English phonemes /ɒ/ and /ɔ:/. On the other hand, Spaniards have pronounced less correct words than Valencians, as their vowel system only consists of 5 short vowels compared to the 8 that exist in Valencian. In the results, it can be seen that the number of words that had the same vowels as their L1 speech system is very high compared to the rest. Vowels like /ə/, /ɒ/, /ɔ:/ and /ɜ:/ would have been pronounced well due to the fact that their L2 is Valencian. The Arabs, despite being a smaller group, got the same number of correct words as the Spaniards. This can be explained because Arabs have 6 short and long vowels in their vowel system and also allophones that coincide with English phonemes such as /æ/. Furthermore, they have obtained good results in the pronunciation of words that do not contain the segmentals of their language. For example, the high results with the phoneme / e / will have been obtained by their knowledge of their L2, either Valencian or Spanish. Regarding the Romanians their results are very high considering that they are only 3 in the group. Clearly the level of two of the participants is noticeable in comparison with the rest as they acquired the language before coming to Spain, so although these two participants cannot be shown to have been influenced by Valencian and Spanish it is worth remembering that Romanian is also a Romance language so the three languages share many characteristics in their phonetics. Finally, the Chinese participant was mainly influenced by her L1, as she only pronounced words containing the same phonemes as those of her mother tongue.

Through the lessons, students have been given tools to use their mother tongue and L2 language skills to achieve better pronunciation in English. So, clearly, previous knowledge of L1 has a positive effect on their improvement of pronunciation in English. Also, the knowledge of Spanish and Valencian by the Arab, Romanian and Chinese participants has also helped them to expand their proficiency in English as they add to their L1 the linguistic resources of these two languages in order to improve their pronunciation skills. Therefore, this work coincides with the theory of the previously mentioned authors, whose studies state that the L3 is acquired partly because of the positive effects of other previously learned languages, since both, L1 and L2, contributed to the acquisition of correct vowel pronunciation of the L3. (Wrembel, Gut, and Mehlhorn, 2010).

Finally, regarding the third question about gender, although the studies by Majeres (1999) and Chipere (2014) showed that females are more proficient in phonology than males, the results of this study showed the opposite. In terms of gender, the participants with the best pronunciation were men. However, it should be remembered that there are more male than female participants. Thus, although women pronounced fewer vowels correctly, they obtained a fairly high percentage of correct pronunciations. Therefore, we would say that the gender of the participants has not had much relevance in acquiring correct pronunciation.

6. CONCLUSION

The aim of this paper was to find out whether L1 helps in acquiring correct pronunciation of English vowels, to examine whether students end up with better pronunciation after doing phonics lessons and to probe whether the gender of the learners influences the acquisition of correct pronunciation. In order to obtain the results, a study was carried out with high school students who were grouped according to their mother tongue. First, speech data were collected from the participants before they received phonetic lessons. After analysing their pronunciation of a list of English words, it was found that Valencians were the most proficient at pronouncing them correctly. Two months later, information on the participants' pronunciation was collected again and the data showed that their pronunciation level actually improved. With regard to gender, there is a difference in the number of correct utterances between male and female participants. In the two speech data

collections, boys scored higher than girls, however, it is important to say that there were more male participants in the study so it is more probable for them to get better results than females.

The results during the class have also been very positive. The students were motivated during the phonics lessons, which is very important as motivation is one of the factors that encourages them to continue learning English. This is why we can say that phonetics is a relevant discipline that should be given the same importance as other disciplines that are more widely taught in the classroom, such as semantics and syntax. In the end, the aim of learning a language is to communicate and in order to do that you have to understand and be understood. If learners do not have a good foundation or some knowledge of phonetics, which is the basis for learning to pronounce correctly, the main objective disappears. Thus, the end result is a student without any motivation to continue studying English, who after many years of taking classes, leaves high school without any proficiency in the language. Therefore, we encourage teachers to give phonics lessons, as students learn a lot in a short period of time and it will help them to feel more confident when communicating in English.

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